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NEWS CONTENT COMPARISONS
BETWEEN ONLINE AND PRINT VERSIONS OF
ONE DAILY NEWSPAPER IN THE U.S.

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Seok-Jo Yoo

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NEWS CONTENT COMPARISONS BETWEEN ONLINE AND PRINT VERSIONS OF ONE DAILY NEWSPAPER IN THE U.S.

By

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ABSTRACT

NEWS CONTENT COMPARISONS BETWEEN ONLINE AND PRINT VERSIONS OF ONE DAILY NEWSPAPER IN THE U.S.

By

Seok-Jo Yoo

Traditional media, print newspapers and television news, now face a relatively new competitor gaining popularity at astonishing speed. The Internet is proving to be major player with respect to the dissemination of news. Even though some online versions of newspapers still shovel their print editions, there are profound and important differences emerging with respect to content between online and print versions. Now, many newspaper Web sites add more and more news items provided from wire services. Some newspapers even create special news stories to be run only by their online versions.

This study examines how Internet news content differs from that of printed news by comparing the news content of online and print versions of the same newspaper. A content analysis was conducted of both versions of the *Detroit Free Press*, which included all news items throughout a period of five weekdays. An interview with the online editor of the paper was also conducted in order to obtain additional information. This study shows that the online version had more news content, more related articles and longer headlines than its print counterpart. There were also significant differences in the distribution of news sources as well as articles by topic and geographical coverage. The online version had less photos than the print version, however, and no significant difference was found in the average story length.

To God Almighty,

Who was and is always there for me through not only good times but also difficult times

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CHAPTER ONE

INTRODUCTION

The traffic on the Internet is increasing everyday. According to Nielsen//NetRatings, over 180 million people in the United State had access to the Internet, and over 130 million surfers actively use computer connected to the Internet.[1] The Pew Research Center's biennial news survey, conducted among 3,002 adults from April to May in 2002, indicates that sit-in-ten (62%) go online to access the Web or send and receive email at least once a week, up from 54% in 2000.[2] Another survey found that 76 percent of the Internet users felt that they could learn everything they need to know from the Internet if they had to go a month without reading a newspaper or watching TV, and 32 % go online several times a day.[3] The number of those who go online for news is also increasing dramatically. According to the result of the same survey of the Pew Research Center in 2002, 35% of Americans go online for news at least weekly, up from 5% in 1995 and from 20% in 1998.

Internet news users want something different from printed news because they are likely to

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[1] Nielsen//NetRatings, "More than One Third of All Online Users Log on to Government Sites, According to the Nielsen//NetRatings," (17 March 2003). 15 May 2003 <http://www.nielsen-netratings.com/pr/pr_030317.pdf>

[2] Pew Research Center, "Public's News Habits Little changed by September 11: Americans Lack Background to Follow International News (Biennial Media Consumption 2002)," (9 June 2002). 15 May 2003 <http://people-press.org/reports/display.php3?PageID=614>

[3] Dave Astor, "Survey finds more Net use and trust," Editor & Publisher 133(May 15 2000);35. This survey was conducted by Princeton Survey Research Associates for nationwide poll of 1,232 adults, including 550 internet users.

be an active audience, no longer passive. They expect that the Internet provides more news content than daily newspapers and that they can select their own news to their own interests. Moreover, most of the news content in the Internet is free. So, it is not surprising that increasing numbers of Internet users are going online for their news. Although the mainstream news media are still print newspaper and television, we can see clearly that the Internet has become a major medium for news. This means that more and more people are turning to the Internet for news.

These trends have urged newspapers to join the struggle to go online. Today, it is more difficult to find a newspaper without an online version than one with an online version. The newspaper industry has embraced the Internet as a possible outlet to maintain its base of readers and advertisers. Internet news can provide interactivity, immediacy and limitless space compared to the printed news. For newspapers, the Internet can be a chance to overcome the physical limitations of a print medium resulting from newsprint, delivery routes or printing deadlines.

Even though some online versions of newspapers, especially small local papers, still transfer their print edition into the Web version, the difference between online version and print version in the content becomes clearer. Many newspaper web sites add more and more news items provided from wire services. Some newspapers create special news stories for only their online version although this trend is not mainstreamed yet.

The purpose of this study is to examine how Internet news content differs from that of printed news by comparing the articles from the online version with the print version of the same newspaper.

CHAPTER TWO

ADVENT OF ONLINE NEWS

Internet as a News Medium

Although the history of the Internet started 34 years ago for academic and military purposes, it was not considered as a publishing platform until the early 90s, when the World Wide Web appeared on the scene.[4] Since the first graphical Web browser was commercially released in 1993, dramatic increases in access and use have made the Internet a household word.[5]

It was magazines that took advantage of World Wide Web because of their better background in visual information. However, newspapers were the first mass medium to see a threat from the World Wide Web. The newspaper industry had been challenged many times, so it quickly recognized the potential of the Internet. Especially, facing a decrease of readership since the 1960s, U.S. newspapers have made efforts to reverse the decline.[6] They tried to improve the presentation of the print products through color photographs, informational graphics, and modular layout. Thus, the newspaper industry began to go into the Web in the mid-1990s.

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[4] Roland De Work, Introduction to Online Journalism: Publishing News and Information (Boston: Allyn and Bacon, 2001): 6-7.

[5] Bonnie Bressers and Lori Bergen, " Few university students reading newspapers online," Newspaper Research Journal (Spring/Summer 2002): 32.

[6] Foo Y. Peng, Naphtali I. Tham and Hao Xiaoming, "Trends in Online Newspapers: A Look at the US Web," Newspaper Research Journal (Spring 1999): 52-63.

The growth in the number of U.S. newspaper online has been dramatic. According to the Web site of the Newspaper Association of America (http://www.naa.org), more than 1,300 North American daily newspapers have launched online service as of May 1, 2002.[7] In 1994, there were 60 dailies in the Web, and 517 in 1998. In other words, there are over 21 times as many daily newspaper Web sites in 2002 as there were in 1994. Now, the U.S. newspaper industry is leading the world in Web publishing with over 60 percent of all the existing Web newspapers.[8] The newspaper industry has embraced the Internet as a possible outlet to maintain its base of readers and advertisers.

Online newspapers can be categorized into two fields. The first field is that the existing news media deliver their news through the Internet. Most of news media have their Internet news sites. Especially newspapers with strong reputations such as the *New York Times,* the *Washington Post* and CNN easily rebranded themselves for the Web. The second field is the news sites existing only in virtual space. Those who saw a real future on the Web launched new ventures providing news services from online platforms alone. *Hotwired.com, Salon, The Drudge Report and Slate* offer the classic example of successful web start-ups. Their content has a direct relevance to their readers, and they have strong personalities and large readerships around cultural and social issues. Some of them are on the road to success. Slate was ranking up over average 4 million unique visitors a month, and increased 71% to 1.7 million surfers during the week ending March 23, the first full week of the U.S. and British war campaign against Iraq.[9] However, most of online news sites existing only in virtual space are in financial difficulty. Although

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[7] "Facts about Newspapers 2002", Newspaper Association of America Homepage, 19 May 2003 <http://www.naa.org/info/facts02/20_facts2002.html>.

[8] Peng, Tham, and Xiaoming, 52.

[9] Nielsen//NetRatings, "Round-The-Clock News Coverage of The War In Iraq Draws Surfers Online," (28 March 2003) 21 May 2003.

Salon has 3.4 million unique monthly visitors, it now seeks a capital infusion to stay afloat.[10]

Hall insists that the real potential of the Web as a disseminator of news became apparent in April 1995 with the Oklahoma City bombing.[11] Resources on the web included statements from the White House, photographs of the damage, the names of victims and updated reports about the disaster from local news providers. According to him, readers seem to turn to the Web for these reasons: to find information that is unavailable elsewhere; for convenience, in many cases the Internet is already on their desks at work or at home; and for the ability to search for news on a specific subject.

However, as a business, online newspapers have no systematic scheme for making money. Although the Internet can help online publishers save the cost of printing and delivering the hardcopy newspaper, online newspapers have yet to generate sizeable revenues by charging their readers. With a few exceptions, such as *Wall Street Journal* and *New York Times*, most of the online news sites were delivered free of charge and were not generating any profits.[12] Banner ads are not enough for online newspaper to survive independently. Although the Internet has the disadvantage of a lack of profit model, it is clear that the Internet as a news medium has the potential to reshape the news media world.

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[10] Tobi Elkin, "Salon, Slate grope for lifeline online," Advertising Age 74.9 (Mar 3, 2003): 57.
[11] Jim Hall, Online Journalism: A Critical Primer (Sterling, Virginia: Pluto Press, 2001): 27-28.
[12] Sung-hee Park, "Journalism by demand: The changing role of online journalists as agenda setters," Ph.D. Dissertation, Purdue Univ., 2000: 21.

Development of Online News

Hall states the development of online news followed two paths.[13] One is so called 'shovelware' – content that was created for the print product and has been shoveled on the Web. For example, news stories are typically moved from the newspaper production computers to the online staff for the makeup needed for Web delivery. In this stage, content changes are rare and relatively minor such as changing headlines to fit the different space requirement.[14] It was used largely by older media, both paper and broadcast, because it was coupled with the owners' attempts to minimize a risk outlay in a new medium. Quite a few current online newspapers still might be expected to simply replicate the print product.

However, some newspapers that had launched online began to place some extra articles in their online versions. This alternative model is to offer special content section not available in print. They also took advantage of the interactivity between reader and author which hypertext offered. Those online newspapers did not merely shovel the paper online. They included news, sports, jobs, arts and other information. They also tried to distribute the whole daily edition by email or launched portal sites which expanded the newspaper sites to include a wide range of information and service.[15]

Pavlik presents three stages through which the Internet has been evolving.[16] The first stage is similar to that of Hall. At stage one, online journalists mostly reproduce content from their mother ship, the print version. Pavlik establishes the intermediate stage between initial phase and the mature phase. At stage two, the journalists create original

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[13] Hall, 28.
[14] Shannon E. Martin, " How News Gets from Paper to Its Online Counterpart." Newspaper Research Journal 19 (spring 1998): 64-73
[15] Hall,. 29
[16] John V. Pavlik,"The future of online journalism," Columbia Journalism Review (Jul/Aug 1997)

content and augment it with such additives as hyperlinks with which a reader can instantly access another website. Stage three is characterized by original news content designed specifically for the Web as a new medium of communication. Six years ago, Pavlik evaluated that stage three was just beginning to emerge at only a handful of sites; now many news media companies are rushing into the new stage.

Furthermore, Scherer gives a step towards the fourth phase. At some point, the registered users will be hit up for either a monthly fee or a "pay for read" plan.[17] He insists that the old broadcast model for online journalism, with free words and banner ads, is to be disused. According to him, online newspapers will sell specific types of readers to advertisers by reader registration.

Characteristics of Online News

Interactivity

One of the most important traits of the online news is interactivity. Jonathan Steuer defines Interactivity as "...the extent to which users can participate in modifying the form and content of a mediated environment in real time".[18] Interactivity is determined by the technological structure of the medium. So, its definition differs substantially from that used by most communication researchers. Rafaeli defines interactivity as " an expression of the extent that in a given series of communication exchanges, any third (or later) transmission (or message) is related to the degree to which

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[17] Michael Scherer, " Newspapers online: Why information will no longer be free," Columbia Journalism Review 41.5 (Jan/Feb 2003): 6.

[18] Jonathan Steuer, " Defining Virtual Reality: Dimensions Determining Telepresence," Journal of Communication 42 (autumn 1992): 84.

previous exchanges referred to even earlier transmission."[19] According to both definitions, the Internet is clearly much more interactive than traditional print paper because readers are encouraged to restructure the text to their own ends using a range of hierarchical entry points.

The interactivity of the Internet is augmented by hyperlinks. The hyperlinks are crucial to Internet journalism. Hyperlinks are like doors through which a person can jump into other sources. Hyperlinks can lead readers to more background information about the stories they read and related subjects. Hall describes the function of hypertext links as '...allowing readers to produce individual narratives which can re-segment the primary text and may include or conjoin other texts or sets of texts to produce new texts'.[20]

The interactivity function of online news also allows two-way communication to take place between the reader and the author. Online newspaper offers a discussion forum, and letter to the editor and chat room, so it can give users various voices they can seek and remove the one-way-news of traditional news. Although the traditional news media audience can give its feedback using the 'letter to editor' section or opinion polls, the audience is still the object of receiving in the communication process.

Immediacy- No deadline

One of the most important advantages of online news over its competition is timeliness. While it would take hours to publish and distribute a breaking news events, it takes only minutes on the Web site. In online news, it's always prime time, and it makes

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[19] S. Rafaeli, "Interactivity: From new media to communication," Advancing communication science: Merging mass and interpersonal processes, Ed. R. P. Hawkins, J. M. Wieman, & S. Pingree, Newbury Park, CA: Sage (1998): 110-134.
[20] Hall, 49.

no sense for online journalists to file to deadlines. The 24-hour news cycle that is commonplace on the web produces a culture of breaking news. As new information becomes available, it is used to update existing stories or breaking news. For instance, *CNN Interactive* updates 24 hours a day and most national online newspapers also update important stories such as war and elections every ten minutes or so. Of course, elements such as regular columns and diaries will be updated to a scheduled frequency.[21]

[21] Ibid., 81

CHAPTER THREE

LITERATURE REVIEW

What Affects Media Content?

Many researchers interested in media effect have asked why and how the effect producing content comes into being. According to Shoemaker and Reese, previous researchers have asked what factors inside and outside media organizations influence media content.[22] After David Manning White suggested that journalists act as gatekeepers of messages, communication researchers are still investigating the issues.[23]

As for media content studies, Gans (1979) and Gitlin (1980) have classified many studies of influences on news content into following categories.[24]

(1) Content reflects social reality with little or no distortion: The "mirror" approach predicts the mass media are mere channels for conveying an exact picture of social reality to the audience. For example, some journalists believe that they do not make the news but report it. They insist, "We are presenting stories from nobody's point of view." In the extreme version of this approach, journalists and reporters are totally independent, all-seeing, and ever-present observers and recorders who never make a mistake. In this null or limited

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[22] Pamela J. Shoemaker and Stephen D. Reese, Mediating the Message-Theories of Influences on Mass Media Content 2nd ed.(White Plains, N.Y.: Longman, 1996),1.
[23] Pamela J. Shoemaker, "Building a Theory of News Content: A synthesis of Current Approaches" Journalism Monograhs 103 (June 1987): 1.
[24] Ibid, 2-3

effects model, the mass media are viewed as having little effect on social change, and control lies within the audience members who are active processors of information.

(2) Content is a function of media routines: This approach holds that the way in which journalists and reporters do their jobs affects the nature of news content. A number of studies focus on how news organization habits and routines affect the kinds of stories written. Examples of media routines may include deadlines, story quotas, abilities of sources, the event-orientation of most media stories, the inverted-pyramid style of writing news stories, selection, shaping, timing of stories and gatekeeping.[25]

(3) Content is influenced by journalists' socialization and attitudes: This approach, called the "journalist-centered" perspective, looks at how forces intrinsic to the journalists and news reporters may affect the stories they report. These intrinsic forces include professional socialization, such as the journalists' attitudes and orientation.

(4) Content results from social and institutional forces working on it: This "social/institutional influence" approach looks at how the news is shaped by technological, economic and culture forces, as well as by the audience, advertisers, and news sources. In this approach, the forces that shape the news are said to be extrinsic to the journalist-the opposite of the journalist-centered approach.

(5) Content is a function of ideological positions and a tool of the status quo:

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[25] Ibid, 8

This "mass manipulative" approach predicts that media content is influenced by the ideology of the powerful.

As Shoemaker pointed out, these five approaches are related to each other, and each approach cannot stand alone. Although the mirror approach may seem to stand alone, many studies show that the media version of an event often doesn't coincide with information about the event from other sources. Shoemaker finally suggested that these approaches should be integrated into an economic model that explains media content as the product of a complex set of ideological forces held by those who fund the mass media. She argued,

> ....the ideological positions of those who fund the mass media will influence the audience's picture of the world to an important extent and will have important consequences for audiences' attitudes and behaviors. In such a mass society, those who fund the mass media will directly influence both individuals' actions and the direction and extent of social change.[26]

However, this study focuses on examining the technology – more precisely, the Internet as a news medium - as one of the strong forces that affect news content. This study assumes that technological change is one of the important factors shaping the news content in the social/institutional influence approach. Based on this approach, this study asks whether and how the Internet technology makes the news content different from the content of a traditional newspaper. In pursuit of the answers to such questions, the feature of online newspapers will become better understood.

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[26] Ibid, 30

Technology Changes News?

Rogers defines "communication technology" as "the hardware equipment, organizational structures, and social values by which individuals collect, process, and exchange information with other individuals."[27] According to Rogers, mass media technologies such as the printing press, film, radio and television are mainly unidirectional, allowing one or a few individuals to convey a message to an audience of many. However, during the 1980s, a different kind of communication technology became important, and it facilitated the exchange of information on a many-to-many basis through computer-based communication systems.[28] Rogers says whether we call it "new communication technology," " the new media," or " interactive communication," it is clear that a very basic change is occurring in human communication.

Rogers also insists that the new communication technologies have three characteristics: (1) they have at least a certain degree of interactivity, something like a two-person, face-to-face conversation; (2) they are de-massified, to the degree that a special message can be exchanged with each individual in a large audience; and (3) they are also asynchronous, meaning they have the capability for sending or receiving a message at a time convenient for an individual.[29]

According to Rogers' description, the online newspaper has the basic characteristics of new communication technologies. First, as mentioned above, online newspapers have the doors through which readers can respond and interact. Second, although physical distribution of the news content has been freed from all geographic

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[27] Everett M. Rogers, Communicatin Technology – The New Media in Society (New York, NY: Nacmillan,1986),2.
[28] Ibid
[29] Ibid, 4 – 6

constraints, the online newspapers try to more narrowly focus and serve individuals with special interests. Third, online newspaper readers can receive online news items at a time convenient for an individual whenever they want.

As for new communication technologies, Rogers raises two issues: (1) Adoption: Who adopts a new communication technology for what reason? What is the rate of adoption of a new technology? What will it likely be in the future? (2) Social Impact: How do the new communication technologies affect the old technologies of communication? Do the new communication technologies widen the gaps between the information-rich and the information-poor?[30]

Rogers presents two important historical evidences to prove that the new communication technologies impact the existing mass media and content.[31] First, he goes back to the case of television diffusion in the 1950s to discuss the social impact of television on such existing mass media as radio, film and on other aspects of American society. Because of the rapid diffusion of television, movie attendance dropped dramatically, the radio was pushed to be just a medium for providing music, and the authority and credibility of newspapers began to fade. The film industry had to try various strategies to hold on to its audience -- for example wider screens and three-dimensional viewing and special sound effects, and change their content toward more frankly sexual and violent content. Also, radio changed its function and content to avoid a decline. Radio changed its role to that of providing music and news to people while they are primary engaged in driving, working, studying, etc. His second example is how the introduction of computers has changed newspapers and their news content. Until two decades ago, most

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[30] Ibid, 8
[31] Ibid, 188-193

newspaper companies delivered an identical newspaper to each of their readers. However, thanks to computers, they can make up a localized edition for each suburban section in the newspapers' subscription area; each specialized edition, containing news of particular interest to certain readers.

Taking a step forward, Pavlik insists that new technology can transform journalism.[32] According to him, networked new media like the Internet can be interactive, on-demand, customizable and can incorporate new combinations of text, moving images, and sound. Also it can build new communities based on shared interest and concerns. Pavlik emphasizes that the Internet has the almost unlimited space to offer levels of reportorial depth, texture, and context that are impossible in any other medium.

The issue this study examines is related to the issues Rogers and Pavlik raised: How does the online technology affect the content of the traditional newspapers. However, this study does not confine this issue to the perspective of the technological determination because the new communication technologies occur in socio-cultural context. In fact, it is difficult to separate the social impact of the new technologies from those of their context. As Rogers pointed out, although many changes can indeed be traced to the new technologies, the ways in which individuals use the technologies can drive the information revolution. Therefore, this study also examines the issue on the basis of a human behavior approach: how online editors choose the stories for their audience.

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[32] Pavlik, op. cit, 31-32

Change of Gatekeeping Function

If we give much weight to a human behavior approach, the role of online editor or online journalists is more important for online news content. In some aspect, this study also examines how that role is changing as newspapers move online. All newspapers deliver their message through the process of a selection of the day's events. Regardless of their size or coverage, they fill the role of gatekeeper to the world for their readers.

Lewin's "theory of channels and gate-keepers" can be described as a person or group with some power decides what passes through the "gate" and thus is able to become a part of general knowledge.[33] During World War II, the U.S. government promoted the public consumption of sweetbreads (undesirable cuts of meat, such as the heart, tripe, and intestines). Lewin and his students conducted a series of small group experiments with Iowa City residents in which different appeals were made to encourage eating sweetbreads. The Iowa social psychologists found that a housewife acted as gatekeepers for the unpopular foods because it was unlikely that her husband or children would eat them, unless she decided to promote sweetbreads. Lewin theorized about the gatekeeping process in a communication system.[34] Lewin's students, including White, studied gate keepers in mass media institutions, such as the news wire editors of newspapers, who control the flow of national and international news into a local paper. Subsequent studies have confirmed both subjectivity of the gatekeeper's decisions and the readily observable fact that such decisions are made daily by professionals working in a medium of finite space. Today gatekeeping theory is widely used in mass communication

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[33] Jane B. Singer, " The metro wide Web: Changes in newspapers' gatekeeping role online." Journalism and Mass Communication Quarterly (Spring 2001):65-80.
[34] Rogers, 102 -103

research.

However, the theory of gatekeeping may be out of date in the age of the Internet journalism because the Internet tends to remove the "gate" and connect readers directly with original news sources. Gatekeeping theory assumes that there is a gate. Online communication, however, emphasizes the free flow of information at the network where no gate exists. Singer insists that online newspapers are giving up a major portion of their traditional gatekeeping function. For example, providing a link to "wire.ap.org," the online version of the Associated Press, is quite a different thing from selecting which wire stories are of such significance or interest that they merit inclusion in the day's paper. Singer suggests that as papers move online, "Mr. Gates" may find himself out of a job.

As for online editors' gatekeeping function, many researchers and journalists provide alternative roles. One is the role of interacting with readers, while keeping the stance of a servant. Esther Kyson, president of Adventure Holdings and chair of the Electronic Frontier Foundation, which monitors freedom of information on the Web, said that an online editor should be a virtual bartender.[35] In the interactive world, the bartender doesn't do all the talking. According to her, the bartender's value comes in listening and in knowing who should talk to whom. Another role of online editors is that of facilitator who brings topics. Jack Downs, a design editor at the Press-Republican in Plattsburgh, suggested online editors should bring topics to the table and focus discussion that has already there.[36]

This study, in the aspect of gatekeeping theory, examines how the gatekeeping role is changing as newspapers move online. This study seeks to explore whether online

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[35] J.D, Lasica, " Net Gain," American Journalism Review (November 1996):20.
[36] Ibid

papers reflect the content selected by gatekeepers in their print version to provide readers with information, or whether they give their readers a different view than they give their print readers.

Previous Research & Research Questions

Although online newspapers are still in their infancy and are only now beginning to emerge as a focus of scholarly research, numerous studies have been done about the Internet itself and online news. Most of these studies were focused on the issues related Internet use and motives of users, for example, "why individuals use the Internet or Internet news."

Papacharissi & Rubin found five motives for using the Internet: interpersonal utility, pass time, information seeking, convenience, and entertainment.[37] According to them, information seeking and entertainment had the highest mean scores and convenience was also a salient factor, whereas pass time and interpersonal utility were less salient reasons for Internet use.

Some studies have been done to prove the effect of the increases in Internet use on the declines in other media use. Over one-third of the Web users in a 1997 survey reported that they surf the Web instead of watching TV: 27% note that the Web replaced TV viewing on a weekly basis.[38] Also, Reagan notes that young home computer owners were less likely to listen to the radio, read a newspaper, and watch television news than

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[37] Zizi Papacharissi and Alan M Rubin, "Predictors of Internet use," Journal of Broadcasting & Electronic Media, 44, (2000). They used 5-point Likert scale (5=exactly, 1=not at all). The results were like this : information seeking (M=3.52, SD=0.83), entertainment (M=3.50,SD=0.95), convenience (M=3.27, SD=1.05), pass time (M=2.82, SD=1.05) and interpersonal utility (M=2.43, SD=0.94).

[38] Graphics, Visualization, & Usabilities Center, "GVU's 4th WWW user survey." Online Available: http://www.gvu.gatech.edu/user_surveys/survey-10-1995

non-owners.[39] However, the Pew Research Center found that the Internet news use had less impact on other media news use. According to the results of Biennial Media Consumption 2002, the vast majority of Americans (73%) who go online for news said the Internet had not had an impact on the way they use other media, up from 58% two years before.[40]

As for the gatekeeping function of the print paper, many of studies have sought to probe the criteria for news selection in various ways. Chang and Lee proposed that perceived impact on American security and national interest was a major factor in selection of international news for inclusion in U.S. dailies.[41] Wanta and Roark found that gatekeeping decisions are reflected not only in text but also in wire photos.[42] They suggested that the criteria of selecting photos depends on a mix of market size and perceived audience needs, newspaper tradition, and national trends, as well as news events. Other studies indicate that the print paper is not becoming significantly more local in its orientation. Bridges and Bridges suggested that the front pages of a newspaper are not demonstrating an interest in the local environment to the degree the researchers expected.[43] They found that timeliness of news seemed more important than proximity.

As for online news content, few studies have been done. As for the number or the length of online news, several studies showed that online versions of newspapers carried

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[39] J. Reagan, "Clasifying adopters and nonadopters of four technologies using political activity, media use and demographic variables." Telematics and Infomatics 4 (1997): 3-16.

[40] Pew Research Center, "Public's News Habits Little changed by September 11: Americans Lack Background to Follow International News (Biennial Media Consumption 2002)," (9 June 2002). 15 May 2003 <http://people-press.org/reports/display.php3?PageID=614>.

[41] Tsan-Kuo Chang and Jae-won Lee, "Factors Affecting Gatekeepers' Selection of Foreing News: A National Survey of Newspaper Editors," Journalism Quarterly 69(autumn 1992):554-61.

[42] Wayne Wanta and Virginia Roark, "Which Wirephotos Are Used and Which Are Rejected at Three Newspapers," Newspaper Research Journal 13&14 (fall 1992/winter 1993): 84-98

[43] Janet A. Bridges and Lamar W. Bridges, "Changes in News Use on the Front Pages of the American Daily Newspaper, 1986-1993," Journalism & Mass Communication Quarterly 74 (winter 1997): 826-38.

less products than print versions. The result of a content analysis of six newspapers located in Colorado conducted by Singer represents that online products of Colorado's six newspapers combined ran under half as many items as the print version.[44] Singer concludes that despite the unlimited news hole available online, editors of Web products were whittling down the print package for online distribution. An email survey for 67 online editors conducted by Peng, Tham and Xiaoming in 1997 also said that 60% prefer reducing the number and length of online stories to taking advantage of the limitless space provided by the Internet to give an expanded in-depth coverage.[45]

However, other studies did not find consistent results in content between online and print versions because the difference at the present time might tend to be much more dependent on the maturity of online newspapers than the difference between online and print version itself. For example, Rivas-Rodriguez found that one U.S. Latino newspaper has a larger number of online stories, while another U.S. Latino newspaper has a larger number of print stories but the difference is very small.[46] To examine the issues related to the number and the length of two versions, this study will explore three questions:

Q 1: Is there any difference in the total number of stories between online and print versions?

Q 2: Is there any difference in the average story length between online and print versions?

Q 3: Is there any difference in the length of headline between online and print versions?

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[44] Singer, op. cit.
[45] Peng, Tham and Xiaoming.
[46] Maggie Rivas-Rodriguez, "Brown eyes on the Web: a U.S. Latino newspaper site on the Internet," Ph.D. Dissertation, University of North Carolina at Chapel Hill (1998): 121-123.

As to the gatekeeping role of the online newspapers, several studies suggest that online news emphasize local news rather than non- local news. The result of Singer's study represents that 45% of online news were metro items, while only 31% of print news were metro items.[47] According to a survey by Minnesota Opinion Research of 2,000 Americans who have been online in the previous six months, these users are looking first for local news, then for national news and then for entertainment news.[48] One of the interesting findings of the survey is that significant differences in attitude exist between users at small newspaper sites and large ones. At large newspaper sites, fewer than 58% of the users were primarily seeking local news, but at sites representing papers with less than 250,000 circulation, 83% of the users came for that reason. However, some other surveys indicate users turn to online newspapers for non-local stories of importance to them. A survey of politically interested Web users during the 1996 presidential campaign indicates that they saw online newspapers as significantly more credible sources of this information than their print counterparts.[49]

Q 4: Is there any difference in the distribution of article by topic between online and print versions?

Q 5: Is there any difference in the distribution of article by geographical coverage between online and print version?

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[47] Singer defined metro item as 'story about something in the paper's core circulation area. She divided all stories into metro story, state story(in Colorado but outside the core circulation area), regional story(in any of the seven states bordering Colorado), nation story(in a non-bordering state or a nationwide story) and world story.

[48] PR News, " Get Local Pitches Online," (July1,2002): 1.

[49] Thomas J. Johnson and Barbara K. Kaye, "Cruising Is Believing? Comparing Internet and Traditional Sources on Media Credibility Measures," Journalism & Mass Communication Quarterly 75 (summer 1998): 325-40

Perhaps a better way to look at the gatekeeping issues relevant to the comparison of two versions' content is look beyond the geographical coverage or topic to the staffing of the stories. Because of limited staffs of the online news team, content from the paper's staffs may be the main source of the online version. However, if the online versions of the newspapers try to find other sources to provide readers with in-depth information, the distribution of the staffing of online news stories may be different from that of print news.

Q 6: Is there any difference in the proportion of the organizations (staff member, wire / syndicated service, non-staff member, unknown source) of news items between online and print versions? In which categories of news is this difference clear?

Because of the Web's unlimited space, the online paper can offer both breadth and the depth about special issues. While the breadth corresponds to how many issues or events the newspaper deals with, the depth corresponds to how many articles or how much information the newspaper provides about the specific issue. Looking at related articles gives a clue to determine whether the online newspaper really gives readers the depth of information.

Q 7: Is there any difference in the number of related articles about certain topics or issues between online and print versions?

It is worth noting some visual differences between the print and online versions because they indicate whether the Internet is taking advantage of its multimedia

capabilities. As Wanta and Roark stated, photos attract readers' attention and draw a reader into a story, the emphasis given to particular types of newspaper content is worth inclusion.[50]

Q 8: Is there any difference in the number of photographs or other visuals between online and print versions?

Because not many studies have been focused on the overall differences between online and print version and because the Internet environment changes very rapidly at present, there exist diverse opinions about the future and the model of online news. This study seeks to examine whether online papers are providing their online readers different content compared to their print ones.

[50] Wanta and Roark, op. cit. 84-86

CHAPTER FOUR

RESEARCH METHODS

To answer the research questions presented, this study involved a content analysis between the online version and print version of a major newspaper in the Detroit metropolitan area and an e-mail interview with the editor of the online edition.

Sampling

Selecting Newspaper

The first important decision was to select the newspaper to be studied. This study focuses on a Web newspaper published in Detroit metropolitan area for the following reasons. First, Detroit is one of the largest metropolitan areas in the United States. so that most newspapers issued in Detroit contain enough news articles to investigate the research questions. Second, their Web sites have been developing very rapidly, so that they can help to predict the future trend of online newspapers.

There are two major newspapers in Detroit metropolitan area- *Detroit Free Press* and *The Detroit News*. Those two newspapers are independent and competitive newspapers, published by separate corporations. On Saturdays, Sundays and major holidays, combined editions of *The Detroit News* and the *Detroit Free Press* are produced jointly by the two newspapers and include sections independently edited by the two

newspapers.[51] According to the Audit Bureau of Circulation, the total estimated average was 1,264,800 adult readers for the combined daily (Monday to Friday) and 1,779,400 for Sunday in January 2002.[52] In case of online, *freep.com*, the online version of the *Detroit Free Press* overwhelms *detnews.com*, the online version of *The Detroit News*. The daily average number of page impressions[53] of *freep.com* was 110,917, and that of *detnews.com* was 76,081 in October 2002.[54]

Because the goal of this study is to examine to what degree one U.S. newspaper's online version is different from its print version, the *Detroit Free Press*, which has more Internet customers than *The Detroit News* has, is more appropriate for this study.

The *Detroit Free Press*

The *Detroit Free Press* is the largest daily general circulation newspaper in Michigan. It is owned by Knight Ridder, the second largest newspaper publisher in the U.S.[55] The newspaper was founded in 1831 as the *Democratic Free Press and Michigan Intelligencer*. It became the *Detroit Free Press* on Jan. 4, 1848. John S. Knight acquired the paper in April 1940, and it became a part of Knight Ridder in 1974.[56] The total circulation area contains the state of Michigan, and northern parts of Ohio and Indiana as well as four core circulation areas- Metro Detroit, Oakland County, Wayne County and Macomb County.

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[51] Editor & Publisher, Editor & Publisher 2001 International Year Book 81st edition, 1-215.
[52] Audit Bureau of Circulations publish the total circulation of two newspapers. Available from http://www.accessabc.com/reader/121350_0102_RPRD.pdf
[53] Page impression can be defined as the combination of one or more files presented to a viewer as a single document as a result of a single request received by the server.
[54] Available from http://www.dnps.com/newmedia/audits/freep_oct_02.pdf
[55] Knight Ridder is a communications company engaged primarily in newspaper and Internet publishing. It owns 31 dailies and operates the Real Cities network of 68 regional Web sites.
[56] Available from the homepage of Knight Ridder < http://www.kri.com>; accessed 24 April,2003.

According to Knight Ridder, Monday thru Friday, 812,400 adults read the *Detroit Free Press*. Fifty-three percent are male, 47% are between the ages of 35 and 54, 63% are college educated, 50% have household incomes of $75,000 or more. The circulation of this paper is 368,020 daily and 745,018 Sunday. The average size is 62 pages daily and 180 pages Sunday.

As mentioned above, the *Detroit Free Press* and *The Detroit News* entered a joint operating agreement (JOA) on Nov. 27, 1989. The business, advertising, production and delivery sides of both papers are combined in a company called Detroit Newspapers. The news and editorial department – Knight Ridder for the *Detroit Free Press* and Gannett for *The Detroit News* – are separate.

Because Detroit is the hub of the U.S. automobile industry, this paper tends to often report on that industry and related labor issues. Important local topics include banking, education, sports, politics, and transportation. Chrysler, General Motors, and the Ford Motor Company are among the significant local companies. International coverage is provided through bureaus in Africa, Eastern Europe, and Canada.

freep.com

freep.com is the online edition of the *Detroit Free Press*, updated several times a day with the latest breaking news. The *Detroit Free Press* launched its Web site operation in 1996. The *Detroit Free Pres* published several other Web sites (*Auto.com, MichiganSports.com, AllDetroit.com*) but currently only publishes the *freep.com*.

The online news team is itself small although they utilize other staffers across the newsroom. Ryan Huschka, a director of News Media at the *Detroit Free Press* and editor of the online version, explained the Web team is composed only four people; three Web

producers and himself.[57] They also use copy editors from various departments to aid in the editing of the online site. They have no reporters that write exclusively for the Web, though many reporters are expected to file early versions of stories to run on the Web in the morning or early afternoon especially when covering news events such as crime, accidents, court decisions, etc.

According to Huschka, news flows to the Web site in two ways at the Detroit Free Press: stories from the next day's paper (for publication that night/morning) and "breaking news." The stories from the paper are often identical to the text that appears in the print version. Content also comes in the form of breaking news that lands in the Web Extra sections of the home page and the sports page. This is a report composed of various wire services and staff reports throughout the morning and compiled by a Web producer.

Selecting Issues

In order to understand how the online edition differs from the print edition, it was necessary to analyze not only five weekdays editions (Monday through Friday) but also weekend editions. However, as mentioned above, the *Detroit Free Press* publishes a joint weekend edition together on Saturday and Sunday with *The Detroit News*. The major sections (main, sports, business and local) of Saturday edition come from the *Detroit Free Press*, and just small parts (entertainment, editorial and real estate) come from *The Detroit News*. On Sunday edition, the source is reversed. In case of online weekend editions, the two newspapers publish independent editions. So, it is impossible to compare online and

[57] Ryan Huschka, e-mail interview with author, 5 May 2003.

print version of weekend editions. For this reason, Saturday and Sunday editions were excluded.

A composite week was used to conduct the content analysis. Four successive weeks (from February 9 to March 7) were selected first, and then one day per each day of the week was randomly selected except Saturday and Sunday. Use of a "constructed week" in content analysis is more efficient than simple random sampling or consecutive day sampling.[58] The distribution of newspaper stories may be simply not normal. A constructed week gives better estimates than purely random samples of days because it can avoid the possibility of oversampling individual weekdays. Also use of a constructed week is preferable than use of consecutive days in a single week because the results of consecutive day samples are harder to generalize over time. The sample ended up like this:

- Day 1 – February 10 (Monday)
- Day 2 – March 4 (Tuesday)
- Day 3 – February 12 (Wednesday)
- Day 4 – February 27 (Thursday)
- Day 5 – February 21 (Friday)

[58] Daniel Riffe, Charles F. Aust and Stephen R. Lacy, "The Effectiveness of Random, Consecutive Day and Constructed Week Sampling in Newspaper Content Analysis," Journalism Quarterly 70 (Spring 1993): 139.

The Content Analysis

Coders and Coding

Two coders were given training. There was a two-hour training session on March 22, 2003. At the first meeting, the author introduced himself to the coders and outlined the content analysis. Coding was also begun on about 25 stories picked up from the main section of the print version and their online counterpart to assess intercoder reliability. The coders, two graduate students in the College of Communication Arts and Sciences, entered their coding into the coding sheet and then typed it into an Excel spreadsheet. The key concern was the agreement on classifying the articles according to topics and geographical levels.

The author conducted the intercoder reliability tests, using Program for Reliability Assessment with Multiple Coders (PRAM), a Windows – based application for the PC, designed to simplify the calculation of intercoder reliability coefficient. PRAM requires an input data file that is formatted for Excel. The file must be structured in the following way: (a) The first column must contain the coder Ids in numeric form, (b) the second column must contain the unit (case) Ids in numeric form, and (c) all other columns may contain numerically coded variables, with variable names on the header line.[59]

Because satisfactory intercoder reliability was not produced at the first test, the second training session took place on March 29, 2003. There was further clarification of some of the variables that had met with some disagreement on the first intercoder reliability test. Two coders and the author discussed the difficulties in determining the geographic levels of local, state, national and international, and the story topic such as

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[59] Kimberly A. Neuendorf, The Content Analysis Guidebook (Thousand Oaks, CA: Sage Publications, 2002): 241-242.

general news, political news, business news etc. Twenty news stories were picked and used for the second intercoder reliability session. Reliability results are presented on page 37 and 38.

The story sample for training coders was different from the study sample. After coders were trained and satisfactory intercoder reliability was obtained, coders worked independently on different days of the sample. Coder 1 did Monday, Wednesday and Friday editions of both print and online versions. Coder2 did Tuesday and Thursday editions of both versions. For content analysis, the author made and item list for each day which gave information including story placement on a page or site, and its appearance such as 'print only', 'online only' and 'both'. Coders entered their analysis directly into Excel spreadsheets. Coding was conducted from April 1 to April 22.

Logistics

Most online papers post stories for a specific time period. In the case of the *Detroit Free Press*, it is offering 'back issues' service that provides access to most of the content appearing in the daily online edition. However, it doesn't contain some news items produced by wire service organizations like the Associated Press. So, the online edition of the newspaper should be downloaded by using Internet download software for effective research. To download web pages and links, the author used a offline browser called ' Offline Explorer Enterprise', which can download websites and pages on to hard disk so that user can browse offline whenever he/she want without having to connect to the Internet.

All online editions were downloaded between 8 a.m. and 9 a.m. each day. The reasoning was that this would be the time of day when most online news users visit the

Web site and get online news for the first time that day. Because print papers are delivered at home or workplace early in the morning, the online edition also should be downloaded at a similar time period to be compared with the print edition.

There was one problem when the online sample was downloaded. Some news items were not downloaded by the off-line browser. In this case, the off-line browser presented the Web address connecting the story. Therefore, the author saved each story's Web page that was not downloaded into a CD separately. Most of these stories appeared online only and were largely those from the wire services.

After the online editions were downloaded to CD, online news headlines were copied and stored. Later, headlines existed only in the print editions were included. The author verified that all news stories in both the print version and the online version were included in the item lists. While making the item lists, the author also checked where each item appeared (in print only, in online only or both) and gave coders the information with item lists and samples (newspapers and CD containing the sample Web pages). An identification number was attached to each item.

What Is Coded

Both the print and online versions of the newspaper were coded on each of the five days of the composite week. One of the most important starting points was to decide what part of the content to code. The unit of recording was the story. The analysis included all news stories, column, editorial or photograph. Feature stories such as life style, living, food and book, and entertainment stories related to movie, music, drama, art,

TV were included as long as they had a regular news story form.[60] In case of photograph, stand-alone photo with caption that tells a story was coded as an item like a news article. However, photos and graphs belonging to a specific news story were coded as graphic aids under the news story.

One story reported in both online and print version was considered one unit. All news items were coded as long as they had a separate headline. This means that even short stories in blocks of briefs were coded separately if they had separate headline. For instance, "Local Today," "Related Development," "Across the nation" and "Around the world" corners had some short news stories, and each of these had only three or four paragraphs. In this case, each story was coded because it had a separate headline.

What Is Not Coded

Because the purpose of this study was to compare the difference in the news content between online and print versions, it was determined to leave out advertising content, cartoons, listings of movies and restaurants, mere announcements such as road construction, death notices, sports scores, readers' column, correction, calendars, schedules and other transactions unless there is a regular news story attached. However, some obituary stories were coded because they had a regular news story form. If a news story contained detailed lists, the news story was coded, and the length did not include the listing of times, events and other details.

Even though video or audio streaming is one of the important characteristics of the Internet, it was not coded because the goal of this study was to compare news content

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[60] Regular news story form is defined as a story including a headline or title, compounding complete sentences and, in the most case, the name of author.

between online and print versions and the technology of video and audio streaming couldn't be applied to the print paper. However, photographs connecting video or streaming in the online version were coded as photos.

How to Code and Classify

Appearance

This variable identifies in which version of the newspaper (print only, online only or both) the item appeared. The item lists the author had made gave this information to coders.

Organization (Author)

This variable is whether an item was written or photographed by a staff member, wire or syndicated service or non-staff member like special contributor or guest. On stories and photographs, most newspapers clearly label them as having been written or photographed by the author. Therefore, it was not difficult to decide the organization of items. "Wire and syndicated service" included not only wires like the Associated Press or Reuters staff but also syndicated services such as the *New York Times* and other newspaper companies. More than half of the items written by non-staff members were column.

Some stories and most editorials did not have any author, but editorials are generally written by the editorial staff of a newspaper, so all editorials were coded as "staff." In rare cases, a story had only the author's name and e-mail address as author information; if so, it was coded after checking whether the name was included in the staff name list of the newspaper. For example, the short stories located in the "Local Today" gave the author's name like *by Matt Helms* and e-mail address at the bottom of the story.

As the result of checking it with the staff name list of the *Detroit Free Press*, coders could find it they were staff members. The item whose author was not clear was classified into "unknown source."

Form

This variable is whether an item was a news article, column, editorial or photo. Sometimes, coders have difficulty discriminating between news article and column. Coders sorted out them according to the display style as well as the content. Columns, unlike news articles, displayed columnists' names at the headline and their mug shot.

Geographical Coverage

This variable is whether an item was a local story (about something in the paper's core circulation area); a state story (overall Michigan level or outside the core circulation but in Michigan); a national story (outside of Michigan state or nationwide story); or a world story (in any country other than the United States). Some stories had dual coverages to some extent; for instance, some stories related to Iraq might be simultaneously national stories and international stories depending on the various viewpoints. The emphasis of the issues as well as the location of sources was taken into account to code.

Topics

All stories and stand-alone photos were classified as topics (general news including crime, political, education, business news, entertainment & features, sports, health, science, other). Some stories might fall into more than one category, but they were assigned to only one category. The print and online editions offered useful categories of articles. The section a story was located in online version also was a clue to coders.

Headline length

The measurement of headline length was the number of words. It was necessary

to define the headline for this study because most articles had a few sub-headlines with headline. Headline was defined as the title or caption of a news article set in the largest type both in print and online version. In case of the online version, there was a difference between or among the headlines of the same online article according to where the headline existed. For example, the headline of a local article which existed on the right side of the front page was " fatal fire", while other headlines which existed in the news headline index and in the page containing the actual news story were " boy dies in fire; father rescued by passerby." In the online version, the headline in the page that contained the actual news story was considered as the headline of the story.

Story length

If one wants to know the exact story length, he or she has to count the exact number of words. In the case of the online version, coders can copy the whole news article and paste it into a MS word processor and then count the word by using the count function of MS Word. However, in case of the print version, it takes too much time to count all words of each article. Therefore, it is more efficient to count the number of sentences to compare the story length. In this study, the number of sentences of stories was coded for comparing the story length.

Number of photographs or other visuals

This variable included the number of graphs as well as photographs. As explained above, stand-alone photographs were coded as an item like a news story and classified into the same categories as news articles. Photographs and graphs belonging to a news article were counted to examine which version offers more graphic elements.

Related articles

Although most online and print stories having related contents give readers an information box that represents which related articles they have, it is difficult for coders to count the related articles because it requires coders to explore the sample newspaper back and forth. In this study, the author added information about the related articles to the item lists. The information indicated to which topic the story was related. Because this information was displayed in the lists like Iraq, space shuttle, North Korea etc., coders could easily count the number of related articles. Each related article was coded independently. For example, if there were three articles about the Columbia tragedy, each article was coded as if it had two related articles.

Interview

I interviewed the online news editor for more information about the difference between news stories of the online version and the print version. Ryan Huschka, the online news editor of the *Detroit Free Press*, was contacted by email in March. An e-mail interview was conducted after getting the approval of University Committee on Research Involving Human Subjects (UCRIHS) of Michigan State University and the online editor. The interviews questions consist of several sections: (1) a brief history of online version of the newspaper company, (2) the scale and characteristics of the online news team, (3) the overall process of online news edition, (4) online news sources, (5) the differences between online and print versions (6) prospects for the future of online news.

Intercoder Reliability & Analysis of Data

Two coders performed intercoder reliability tests on both the print and online version of the newspaper. Cohen's Kappa was used to measure the reliability of nominal scales such as appearance, author, form, coverage and topic.[61] And Lin's Concordance was used for ratio scales such as the number of photos and related articles, and the length of headline and story.[62]

As briefly mentioned above, the first test for determining consistency between two coders was not satisfactory. The average kappa for nominal scales was .76 (range was from .44 to 1.00), and average concordance for ratio scales was .90 (range was from .79 to .99). Results of some individual variables were unsatisfactory; topic (.44), coverage (.62), author (.75).

After having discussed and clarified these variables that had met with some disagreement on the first test, the second test was conducted. Agreement was found substantial in all categories. The average kappa was .935, and the range was from a high of perfect agreement of 1.00 to a low of .84. The average score of Lin's concordance correlation coefficient was .99, and the range was from .98 to 1.0. The percentages of intercoder agreement on data relevant to this study were:

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[61] See Jacob Cohen, "A coefficient of Agreement for Nominal Scales," Educational and Psychological Measurement 20 (1) (Spring 1960): 40. This statistic was planned to eliminate change agreement from consideration:

$$kappa = \frac{\text{number of observed agreement} - \text{number of agreement expected by chance}}{1 - \text{number of agreement expected by chance}}$$

A number of sources report kappa to be the most widely used reliability coefficient. It assumes normal-level data and has a normal range from .00 (agreement at chance level) to 1.00 (perfect agreement), and a value of less than .00 indicates agreement less than chance.

[62] See Lawrence I – Kuei Lin, "A concordance correlation coefficient to evaluate reproducibility," Biometrics, 45, 255-268. This is an alternative to Pearson correlation coefficient for measuring covariation of interval or ratio data that takes systematic coding errors into account. Like the Pearson r, this statistic ranges from – 1.00 (perfect negative linear relationship) through .00 (no linear relationship) to 1.00 (perfect positive linear relationship).

- On which version of newspaper an item appeared in: 1.0
- On story author: 1.0
- On story form: 1.0
- On classification as geographical coverage: .90
- On classification as topic: .84
- On headline length: 1.0
- On story length: paper (.996), online (.994)
- On number of photo: 1.0
- On number of related articles: 1.0

A total of 13 variables were identified and numeric values assigned. The data related to all 890 coded print and online stories were moved from Excel to SPSS and analyzed. The analysis was conducted primarily through frequency calculations, and selected cross-tabulations. Significance tests using chi-square and t-test were conducted to determine whether the differences between the variables of two versions were significant.

CHAPTER FIVE

FINDINGS

This section looks at the content analysis findings relating the differences between the print and online versions of the *Detroit Free Press*. The comparison between two versions is related to the raw numbers of stories in each of the two versions, the form and staffing of the stories, the classification as geographical coverage and topic, the length of headlines and stories, the number of artworks and related articles

Story Total

The total number of online products was one and half times as many as the number of print products. Overall, 814 items appeared in online version during this composite week, compared with 542 in the print products for the same days. Table 1 shows a day-by-day comparison of total story counts for the print and online products. The Monday edition of the paper had the smallest items and the Friday edition had the largest item both in print and in online. If the Sunday edition had been included in the analysis, it would have had the largest items.

Table 1 – **Story Counts (Print and Online)**

Day	Print Version*	Online Version**
Monday	90	137
Tuesday	110	171
Wednesday	100	149
Thursday	110	164
Friday	132	193
Total	542	814

* number of items in print version = number of items in print only + number of items in both
** number of items in online version = number of items in online only + number of items in both

Table 2 shows the number and percentage by appearances (print only, online only and both). Contrary to the results of previous studies conducted by Rivas-Rodriguez (1998) and Singer (2001), this study result shows that the editors of Web products were not reducing the print package for online distribution but rather augmenting the amount of information they were giving to online customers.

Table 2 – **Story Counts and Percentage (Print Only, Online Only, Both)**

	Print Only	Online Only	Both	Total
Number of Items	76	348	466	890
Percent of Items	9%	39%	52%	100%

As to form of items, Table 3 shows that all items except one in the only online version were news articles. However, of the 76 items that ran in print but not in online version, 63% were news articles, 24% were columns, and 13% were standalone photos. For editorials, all items ran in both print and online versions.

***Table 3* – Item Form**

	Print Only	Online Only	Both	Total
News Article	48 (63%)*	347 (99.7%)	375 (81%)	770 (87%)**
Column	18 (24%)	1 (.3%)	76 (16%)	95 (11%)
Editorial	0 (0%)	0 (0%)	14 (3%)	14 (1%)
Standalone Photo	10 (13%)	0 (0%)	1 (.2%)	11 (1%)
Total	76 (100%)	348 (100%)	466 (100%)	890 (100%)

* Denotes the percentage within each version, i.e., the print only items classified into news article.
** Denotes the percentage of all items classified into news article.

Story Length

The average length of the stories was not significantly different between the print and online versions. The average story length of the print version was 21.0 sentences, and that of the online version was 20.4 sentences. The print version's length is very little larger than the online version's. When looking at the stories that ran both in print and online, the result was reversed, but the difference is also negligible. Of the items that appeared in both versions, the print version's average story length was 21.26 sentences and the online version's average story length was 21.32 (See Table 4).

Table 4 – **Story Length per Version**

Length	Print Total*	Online Total*	Items appeared in *Both Versions*	
			Print	**Online**
Sentences	21.0 (n=533)	20.4 (n=813)	21.26 (n=465)	21.32 (n=465)
Standard Deviation	17.260	15.338	17.676	17.637

* stand-alone photos were excluded to calculate the story length

A paired-sample *t* test was calculated to compare the two version's story length. No significant difference from the story length of the print version to the story length of online version was found ($t(464)= -.437$, $p(=.662)>.05$).

Although, most stories appeared on the Internet identically to how they appeared in the print version, there were exceptions. Huschka explained why these exceptions occurred. For example, a Detroit city council election story might not get nearly as much space in a paper headed for other counties such as Oakland County. And because of newshole limitations, some stories will be sent to the online version before they are pruned to fit into a smaller size. Hence, the online version sometimes has longer stories.

Headline Length

As to length of headline, the result was not identical to the result of story length. The average headline length of the stories was significantly different between the print and online versions. The average headline length of the print version was 5.61 words, and that of the online version was 6.57 words. The online version's average headline length was almost one word larger than the print version's. When looking at the items that ran

both in the print and in the online, the result was similar. Of 465 items in both the print and the online versions, the print version's average headline length was 5.60 words and the online version's average headline length was 6.43 (See Table 5).

***Table 5* – Headline Length per Version**

Length	Print Total*	Online Total*	Items appeared in *Both Versions*	
			Print	**Online**
Words	5.61 (n=533)	6.57 (n=813)	5.60 (n=465)	6.43 (n=465)
Standard Deviation	1.940	2.291	1.905	2.604

* stand-alone photos were excluded to calculate the headline length

A paired-sample *t* test was calculated to compare the two version's headline length. A significant difference from the headline length of the print version to the headline length of online version was found ($t(464)= -8.068$, $p<.001$).

Some online headlines were entirely different from the corresponding print headlines. For example, the headline of a story representing how to prepare natural disasters or domestic terrorism was "What you may need" in the print version, but it was changed to " In a disaster-supplies kit" in the online version. In most cases, online headlines were not considerably changed from the print headlines although the result was significant. Adding one word to the print headlines caused the significant difference.

Topic

As to type of news items, there is a vast disparity between the two versions. The categories that had large differences between two versions were general news, business news, political, entertainment & features and sports. The online version placed considerably more weight on general news and business news (See Table 6).

***Table 6* – Topic of News Items per Version**

	Print Total		Online Total	
General News	166	(31%)*	337	(41%)
Political	47	(9%)	63	(8%)
Business News	102	(19%)	179	(22%)
Entertainment & Features	77	(14%)	75	(9%)
Sports	122	(22%)	127	(16%)
Others**	28	(5%)	33	(4%)
Total	542	(100%)	814	(100%)

* Denotes the percentage within each version, i.e., the percentage of general news items in the print version.
** 'Others' includes Education, Health, Science, etc.

The online version devoted as much as 41% to general issues, 10% higher than the print version's 31%. Somewhat surprising is the amount of space online version used for business news – 22%, about 3% higher than in the print version.

It is interesting to note that the print version is more political, entertainment and sports –oriented than the online version. The paper had slightly more political news in its

print version (9%) than online (8%). Also, the print version emphasized sports than online version – 23% to 16%. As for entertainment & features, the print version also carried a larger percentage, (14%), than the online version that had 9% for entertainment and features. A chi-square test of independence was calculated comparing the number of each topic for print and online totals. A significant relationship between topic and the two versions was found (chi-square(5) = 28.69, $p<.001$).

An even more dramatic statement can be made by looking at the stories that ran only in the online version and did not appear in print at all (See Table 7). Of these, 59 % were general news and 23% were business news. These figures indicate that when online editors pick up additional items for the online version, over 8 out of 10 (82%) are general news or business news.

***Table 7* – Topic of News Items appeared in Only One Version**

	Print Only	**Online Only**
General News	34 (45%)*	205 (59%)
Political	5 (7%)	21 (6%)
Business News	4 (5%)	81 (23%)
Entertainment & Features	8 (10%)	6 (2%)
Sports	19 (25%)	24 (7%)
Others	6 (8%)	11 (3%)
Total	76 (100%)	348 (100%)

* Denotes the percentage within each version, i.e., the percentage of general news items appeared only in the print version.

** 'Others' includes Education, Health, Science, etc.

Considering that only 50% of total items in the print version were general news or business, the importance of these topics gets to be more consolidated in online version. As a result of a chi-square test of independence, a significant relationship between topic and print and online only versions was found (chi-square(5) = 50.63, $p<.001$).

Geographical Coverage

Of 890 total stories, 421 (47%) were national level items followed by international level (19%), local level (18%) and state level (15%). However, Table 8 shows that the proportion of national level news shrank and that of international level news increased in the online version. The print version devoted more than half of its news to national items. Online, however, national level news accounted for only about 45% of all stories. In case of international level items, only 12% of print stories were international out 19.4% of online stories were international.

Table 8 **– Geographical Coverage of News Items (Totals)**

	Print Total	**Online Total**	**Total***
Local	113 (21%)	153 (19%)	163 (18%)
State	78 (14%)	125 (15%)	129 (15%)
National	281 (52%)	372 (46%)	421 (47%)
International	65 (12%)	158 (19%)	171 (19%)
N/A	5 (1%)	6 (1%)	6 (1%)
Total	542 (100%)	814 (100%)	890 (100%)

* Total number is not the same as the sum of print total and online total because there exists communality between two versions.

A chi-square test of independence was calculated comparing the number of each geographical coverage for print and online totals. A significant relationship between geographical coverage and the two versions was found (chi-square(3) = 14.311, $p<.005$).

By looking at the stories that appeared only in the online version and did not appear in the print version, the relationship between the two variables is clarified (See Table 9). Although the largest proportion of online only products were still national level items, the weight was reduced. Of print only products, 65% were national news, but 40% of online only products were national. While 17% of print only items were international news, 31% of online only items were international.

***Table 9* – Geographical Coverage of News Items (Print Only, Online Only, Both)**

	Print Only	Online Only	Both	Total
Local	10	50	103	163
	(13%)*	(14%)	(22%)	(18%)
	(6%)**	(31%)	(63%)	(100%)
State	4	51	74	129
	(5%)	(15%)	(16%)	(15%)
	(3%)	(40%)	(57%)	(100%)
National	49	140	232	421
	(65%)	(40%)	(50%)	(47%)
	(12%)	(33%)	(55%)	(100%)
International	13	106	171	171
	(17%)	(31%)	(11%)	(19%)
	(8%)	(62%)	(30%)	(100%)
N/A	0	1	5	6
	(0%)	(.3%)	(1%)	(1%)
	(0%)	(17%)	(83.3%)	(100%)
Total	76	348	466	890
	(100%)	(100%)	(100%)	(100%)
	(9%)	(39%)	(52%)	(100%)

* Denotes the percentage within each version, i.e., the percentage of local coverage items appeared only in the print version.

** Denotes the percentage within each geographical coverage, i.e., the percentage of print only items among all local coverage items.

Organization

Perhaps a better way to look at the gatekeeping issues relevant to this study is look beyond the geographical coverage or topic to the staffing of the stories. Staff member produced stories have the largest proportion in the print version (See Table 10). Almost half (49%) of the total 542 print stories were covered by staffers. Wire or syndicated services – produced stories were 113 (21%). Most wire or syndicated service stories were provided by the *Associated Press*, the *New York Times*, *Knight Ridder* or other wires and newspapers. Stories produced by non-staff members such as special contributors or guest columnists were 55 (10%). The stories that had no byline or credit line that showed who wrote it were as many as 110 (20%).

Table 10 **– Organization of News Items (Totals)**

	Print Total		**Online Total**	
Staff Member	264	(49%)*	289	(36%)
Wire or Syndicated Services	113	(21%)	368	(45%)
Non-staff Member	55	(10%)	43	(5%)
Unknown Source	110	(20%)	114	(14%)
Total	542	(100%)	814	(100%)

* Denotes the percentage within each version, i.e., the percentage of staff- produced items in the print version.

However, in the case of the online version, the results look quite different. The online content was predominantly wire or syndicated- generated. Among the online stories, 368 (45%) were by wire or syndicated services; among the print stories, only 21%

were by wire or syndicate services. The proportion of staff-produced stories in the online version (36%) shrank compared to that in the print version (49%). This organizational difference between print and online versions is highly significant (chi-square (3) = 86.86, $p < .001$).

When online only and print only stories are compared, the difference is clearer. Table 11 shows that over 8 items out of 10 that appeared in the only online version were produced by wire or syndicated services. These figures indicate that the source of additional items for the online version heavily depend on outside organizations.

Table 11 **– Organization of News Items (Print Only, Online Only, Both)**

	Print Only	Online Only	Both
Staff Member	12 (16%)*	37 (11%)	252 (54%)
Wire or Syndicated Services	31 (41%)	286 (82%)	82 (18%)
Non-staff Member	19 (25%)	7 (2%)	36 (8%)
Unknown Source	14 (18%)	18 (5%)	96 (20%)
Total	76 (100%)	348 (100%)	466 (100%)

* Denotes the percentage within each version, i.e., the percentage of staff- produced items in the print only stories.

Once appearing in the print version, most staff-produced items moved to the online version. Only 12 (5%) of the total 264 staff-produced items in the print version did not appear in the online version.[63] However, quite a few items produced by wire or syndicated that appeared in the print version were removed from the online version. As

[63] See print total/staff member of table 10 and print only/staff member of table11.

many as 31 (27%) of 113 items produced by wire or syndicated services in the print version did not appear in the online version.[64]

Table 12 indicates that the degree of dependence on wire or syndicate services for additional online items was different according to the geographical coverage. While 54% of additional local online items came from the wire or syndicate services, about 90% of additional national or international online items were produced by wire or syndicate services. It means that some online only stories that took place inside the paper's primary circulation area were still covered by staffers, but those that took place out of state or U.S. totally depended on wire or syndicate services. There is a significant relationship between organization (wire/syndicated services and others) between geographical coverage in the online only version (chi-square (3) = 38.43, p <.001).

Table 12 **– Organization (Wire/Syndicate vs. Others) by Geographical Coverage (Online Only)**

	Local	**State**	**National**	**International**	**Total**
Wire/Syndicate	27 (54%)	38 (75%)	127 (91%)	93 (88%)	285* (82%)
All Others (Staff, Non-Staff, unknown)	23 (46%)	13 (25%)	13 (9%)	13 (12%)	62 (18%)
Total	50 (100%)	51 (100%)	140 (100%)	106 (100%)	347* (100%)

* excluded one N/A items in the geographical coverage.

As for topic, the degree of dependence on wire or syndicate services for additional online items was not significantly different according to the level of news

[64] See print total/wire or syndicated services of table 10 and print only/wire or syndicated services of table11.

topics. In all topic categories, additional online content depended on wire or syndicate services.

Photographs or Visuals

Although the Internet has multimedia capabilities, the online version of the paper was less visually enticing than its print counterpart. While 261 or about half (48%) of the print stories had one or more photos or visuals associated with them, only 162 or under 20% of the online stories had one or more photos or visuals. The average number of photos in the print version (.82) was more than twice as many as that in the online version (.38) (See Table 13).

When looking at the items that ran both in the print and in the online, the differences are more dramatic. Of 466 items both in the print and online versions, 47% in the print version had one or more photos, but only 14% in the online version had one or more photos. The difference of average number of photos between two versions was much larger. The average numbers of photo was .82 in the print version and .16 in the online version. A significant difference of the average number of photos between two version was found ($t(465)= 12.584$, $p<.001$).

***Table 13* – Number of Photographs or Other Visuals per Version**

Number of photo	Print Total*	Online Total*	Items appeared in Both Versions	
			Print*	Online*
0	281 (52%)	652 (80%)	245 (53%)	402 (86%)
1	164 (30%)	98 (12%)	136 (29%)	55 (12%)
2	52 (10%)	21 (3%)	43 (9%)	9 (2%)
3	26 (5%)	17 (2%)	24 (5%)	
4	7 (1.3%)	12 (1.5%)	7 (1.5%)	
5	8 (1.5%)	10 (1.2%)	8 (1.7%)	
6 +	4 (.8%)	4 (.5%)	3 (.6%)	
Total	542 (100%)	814 (100%)	466 (100%)	466 (100%)
Mean	.82	.38	.82	.16

* stand-alone photos were included to calculate the number of photos

Technical limitations might be a partial reason; pictures take longer to display online and the resolution is worse than in print. However, the problem may be more related to staffing constraints.[65] With a small team, they produce a fairly large site. Huschka says that usually two people prepare the site. The production and placement of art is time consuming and labor intensive because it is not databased-organized. Whatever the reasons, the relative absence of substantive photos or visuals in the online version is interesting.

[65] Ryan Huschka, e-mail interview, 5 May 2003.

Related Articles

The average number of related article was significantly different between the print and online versions. Online stories had more related articles than print stories. While 18% of total print products had one or more related articles, 22% of total online products had one or more related articles. Also items in the print version had an average of .61 related articles. However, the average number of related articles for one online item was .95.

When looking at the items that ran both in print and in the online, the result was the same. Among 467 items including standalone photos appeared both in print and online versions, the print version's average number of related articles was .63 and the online version's average number of related articles was .92. A paired-sample *t* test was calculated to compare the two version's related articles ($t(466)= -5.561$, $p<.001$).

Table 14 **– Number of Related Articles**

			Items appeared in *Both Versions*	
	Print Total*	**Online Total***	**Print***	**Online***
Mean	.61 (n=542)	.95 (n=815)	.63 (n=467)	.92 (n=467)
Standard Deviation	1.833	2.802	1.878	2.765

* Stand-alone photos were included to calculate the number of related articles

CHAPTER SIX

CONCLUSION

Despite the online newspapers have been growing rapidly, they can not help depending on their print version heavily because of economic and staffing constraints. Most previous studies about online news content indicated that online versions of U.S. newspapers could not take the advantage of the limitless space provided by the Internet even though they somewhat differed from the printed versions. The previous studies showed that the bulk of the online news was still "shovelware" although they had a much stronger local orientation than print versions.

This study indicates the current online newspapers are getting out of the phase of "shovelware". The findings show the online version has more news content, more related articles and longer headlines than the print. Also there are some significant differences in topic, geographical coverage and news sources between two versions. However, the findings also indicate that the current online newspapers have not overcome the phase of "shovelware" yet. The online version has less photos than the print version, and there is little significant different in the story length. The future of online news content may depend on whether it can overcome a replica of an existing one and to what extent it can add value to it.

At the start of this study, eight research questions were posed. They can be arranged as follows:

- Between online and print versions, are there any differences in total number of stories, and average length of stories and headlines?
- Between online and print versions, are there any differences in distribution of articles by topic and geographical coverage?
- Between online and print versions, is there any difference in proportion of organization?
- Between online and print version, are there any differences in the number of photos and related articles about certain topics or issues?

In this chapter, all these questions will be considered. Also to be addressed is what other additional research may be suggested by these findings.

Answers to the Research Questions

As was detailed in the previous chapter, the online version of the paper is not an exact replica of its print version. The online version is significantly different from the print version in some parts, although not in all parts.

As for the number of stories, the online version is significantly different from the print version. The online version carried substantially more stories than the print version (814 to 542). Also, of the items that ran online, 43% appeared only on the Web and not in print. It means that almost half of the items in the online version are only for the online version. No more than a few years ago, online versions of newspapers were considered whittling down the print package for online distribution.[66] However this study shows that the online version starts to take good advantage of the Internet.

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[66] The results of previous studies conducted by Rivas-Rodriguez (1998) and Singer (2001) indicate that online versions are whittling down the news stories of the print versions.

Different results from the previous studies can be explained by two probabilities. One is that online newspapers matured in recent years because the Internet environment has changed very rapidly. The Rivas-Rodriquez's study was done five years ago (1998) and Singer's study, although it was published in 2001, was based on 1998- year samples. Another probability is due to differences in individual samples. The *Detroit Free Press* is the largest newspaper in Michigan as well as the Detroit metropolitan area, and the Web site of the paper is also more developed than Web sites of other local newspapers. In fact, the online version of the *Detroit Free Press* have been automated with the Associated Press feeds – a state wire feed, a top stories feed, a technology feed, etc.[67] Stories from many wire services are included in the tally so that many more stories are available online than are in print.

According to Halls' grouping criteria about the development of online news, the online version of the *Detroit Free Press* has already passed the path called 'shovelware,' and now is going into the path of the alternative model which offers special content not available in the print version. As Huschka pointed out, because of the nature of the medium, the online newspaper has the potential to publish updates around the clock with the latest breaking news.

However, strictly speaking, it is hard to say the online version of the paper belongs to the alternative model because most online stories from the print version typically ran with only minor alteration. The difference of average story length between two versions was trivial (20.96 sentences for print to 20.42 sentences for online).

As for the headlines, the online version's average headline length was one word

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[67] Ryan Huschka, email interview, 5 May 2003.

larger than the print version's (6.57 to 5.61). This study shows that online editors try to change headlines to fit the available space in the Internet even though it was a minor alteration. When they change a headline, it is often to give readers more context to a story. Huschka says that, in a newspaper, readers have several visual elements such as a label, a headline, a deck headline, the first few paragraphs of type, photos, pull-outs and so on that will help them decide whether or not they will read a story. He says that online readers often have only a headline or a head and a short tease to make that judgment. So, online editors rewrite to make the headline meaning clearer and more attractive to readers. Also, they do not have to fit the headline to print format.

As for the difference in the distribution of stories, this study shows that the differences in both topic and geographical coverage exist between the two versions. The online version placed more weight on general news (41% to 31%) and business news (22% to 19%) than the print version did. This trend became clearer when we look at the stories that ran only in the online version. Over 80% of stories that appeared only in the online version were general news or business news. The reason the online version carried more business news is that the online version of the *Detroit Free Press* has posted many auto industry stories everyday.

The results of this study also indicate that although both print and online versions devoted the largest proportion of their news to national items, the online version placed more weight on international news than the print version did. National news was 52% of print stories, but 46% of online stories. International news was 12% of print news, but 19% of online news. Some previous studies found that online news emphasized local

news rather than non-local news.[68] However, it depends on who readers of the newspapers are whether newspapers emphasize certain parts. In general more are small newspapers, and are more likely than large ones to focus on local news. Phipps found that fewer than 58% of the users were primarily seeking local news at large newspaper sites, but 83% of the users went to the local newspaper sites for local news.[69] Voakes et al. found that medium and small news organizations have a much larger percentage of wire copy on issues of statewide interest than larger ones.[70] Because the newspaper studied here is the largest newspaper in Michigan, the importance of local news in the online version might be less than other local papers' Web sites. According to the explanation of the online editor of *freep.com*, although the online team believes their audience comes to the site to find news about local happenings, people, business and sports, they also know the Internet is home to many other news sources for national and especially international coverage.[71] Therefore, they tend to reduce the local stories in comparison to the print paper.

It is also true that online versions of newspapers somewhat depend on their print counterparts for news content because online newspapers have limited staffs. Content from the paper's staff is essentially free to the online product. However, online newspapers have another important news source- wire and syndicate services. The largest percentage of online content was wire or syndicated- generated. About 42.5% of the online stories were produced by wire or syndicated services. This result indicates that

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[68] Singer (2001), Rivas-Rodriguez (1998).
[69] Phipps (1999)
[70] Paul S. Voakes, Jack Kapfer, David Kurpius, and David Shano—Yeon Chern, "Diversity in the News: A Conceptual and Methodoligical Framework," Journalism & Mass Communication Quarterly 73 (autumn 1996): 582-93
[71] Ryan Huschka, e-mail interview, 5 May 2003.

online newspapers are trying to meet the readers' desire for information by using wire or syndicate news services because they have limited staffs. Also, they know their users do not really care where the information comes from, they just want to know what is going on. This mechanism is essential because of the nature of the Internet- immediacy. Until staffers can come around with their own take on an event, wire service stories in the online versions keep the site current.

News from wire or syndicate services also makes online newspapers provide readers with more depth on specific issues or events. While 18% of print stories had one or more related articles, 22% of online stories had one or more related articles. Internet news users seek the depth as well as the breadth. While online newspapers offer wide audience broad coverage on a variety of issues and topics, they also provide them with the depth through posting more related articles or linking to other context.

However, the online newspaper ca not fully take advantage of the multimedia capacities of the Internet. While about half (48%) of the print stories had one or more pieces of artwork including photos or visuals, only 20% of the online stories had one or more artworks. The reason may stem not only from technical limitation but also from economic and staffing constraints.

Limitation of the Study

This study sought to explore how Internet news content differs from that of printed news by comparing the articles from the online version with the print version of the same newspaper. However, there were constraints, the most significant of which was the limited sample. The *Detroit Free Press* was chosen for this study in part because

Detroit is one of the largest metropolitan area in the U.S., and its Web site has been developing enough to examine and predict the trend of online newspaper. However, it is not representative of all U.S. newspapers on the Web, so it is difficult to generalize the result of this study into all U.S. online newspapers. A variety of online newspapers on the Internet should be examined to define the trend and characteristics of online news.

Another constraint was the short time frame and the exclusion of a weekend edition. In the sampling, a composite week for four-week period was selected and five weekdays were included in the sample. Because just one newspaper was selected, selecting more days might help to build credibility to the results.

Further Study

The Internet environment is changing very rapidly today and online newspapers mature everyday. Therefore, it would be interesting to examine time trends. Although such longitudinal studies are relatively rare in mass communication research, the longitudinal method can be appropriate to examine news content of evolving media like Internet. Also, through this method, we can estimate the past and current developmental stages of online news.

Another important study might consider the difference of online news according to the scale of the newspapers or its readers. The main result of the study might be different depending on whether the sample was local, metropolitan or nationwide newspaper. It is necessary to expand sample for more representative results.

Further examination of the "why" behind the "what" that is different between two versions is an obvious follow up study. This issue should be focused on the gate-keeping

role of future online journalists.

APPENDICES

APPENDIX A: Coding Key

1	**ID**	Item's ID number on item list
2	**DAY**	1 – February 10 (Monday) 2 – March 4 (Tuesday) 3 – February 12 (Wednesday) 4 – February 27 (Thursday) 5 – February 21 (Friday)
3	**CID**	Coder ID number 1 – (Park, Mi-hee) 2 – (Song, Jung An)
4	**APPEARANCE**	Version this item appearing 1 – Print Only 2 – Online Only 3 – Both (print and online)
5	**AUTH**	Source of this item 1 – Staff Member 2 – Wire or Syndicated Service 3 – Non Staff Member (special contributor / guest) 4 – Unknown Source
6	**FORM**	Form of this item 1 – News Article 2 – Column 3 – Editorial 4 – Photo
7	**COVER**	Coverage of this item 1 – Local 2 – State 3 – National 4 – International 5 – N/A (Not Applicable)

8	**TOPIC**	Topic of this item 1 – General News (including crime) 2 – Political 3 – Education 4 – Business News 5 – Entertainment & Features 6 – Sports 7 – Health 8 – Science 9 – Other
9	**H-LENGTH(P)**	Number of words in the headline (**print**): _ _
10	**H-LENGTH(O)**	Number of words in the headline (**online**): _ _
11	**LENGTH(P)**	Number of sentences in the story (**print**): _ _
12	**LENGTH(O)**	Number of sentences in the story (**online**): _ _
13	**PHOTO(P)**	Number of Photo or Graphs in the story (**print**): _ _
14	**PHOTO(O)**	Number of Photo or Graphs in the story (**online**):_ _
15	**RELATED(P)**	Number of related articles with this item (**print**): _ _
16	**RELATED(O)**	Number of related articles with this item (**online**):_ _

APPENDIX B: Coding Instruction Book

ID: Each item (article/photo) has an identification number attached to it. That number will be written on the item lists.

DAY: Five days samples are divided by day. When you are given your stories in CD, the folder title is the day you have to code.

CID: Indicate your number that is assign to you.

APPEARANCE: The story lists will give you information whether this story appeared in the online version only, the print version only or in both the print and online versions.

AUTH: It is not difficult to decide whether it was written or photographed by a staff member, wire or syndicated service (including not only Associated Press but also other syndicated service such as New York Times), non-staff member (for instance, special contributor or guest). Mostly, the author's affiliation is in a byline at the beginning. However, it may be hidden at the bottom of the news story, in a credit line. Sometimes, you have to look carefully to decide the author because there is no information about author. In case of "Local Today," note that if the author is staff member, only the author's name is given at the bottom. For example, if author information is only name such as *by Matt Helms* or *Frank Witsil*, the author is staff member. Editorials are generally written by the editorial staff members. If there are multiple bylines(for instance, "staff writer and wire report"), code it according to first author. If you can't tell, choose " Unknown Source." You have to code the author of standalone photo as well as news article. Note that the source credit of "Free Press News Services" does not fall to "staff member" but "Wire or Syndicated service," because this credit means that the Detroit Free Press

compiled the story from several different wire sources.

FORM: News articles should be easy to identify. Editorials may be written by unsigned authors but would be located on the editorial page that outlines the editorial position of the newspaper. In most case, columns are written by identified columnists.

COVER: You have to decide whether this story or standalone photo falls into local, state, national or international.

1. *Local* – This is the category for stories in the paper's four core circulation areas: Metro, Oakland County, Wayne County, Macomb County. In online version, these local areas are given at the top of the story, if the story is local level. Note that story in Lansing area is NOT local BUT state.
2. *State* – If it is a story that involves state politics or a state agency or that will affect residents statewide, or a story in other Michigan counties outside the four core circulation areas.
3. *National* – This is the category for stories in any of states except Michigan or nationwide stories such as announcement of a new medical breakthrough. If it is a very interesting local or state story that has made the national news, count it as national even though it occurred in local or state area.
4. *International* – This is the category for stories in any country other than the United States
5. *N/S* – (Not Applicable) If you can not decide the coverage areas among these categories, put it in this category.

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TOPIC: Some stories may be considered as more than one category. But each unit has to be assigned to only one category. One way to decide which type is to think about what is the story most about, and another way to decide is to look at which section a story is in. Often, the section of online version where a story places is different from that of print version. So, choose the most plausible category after think carefully. Do both **article** and standalone **photo.**

Some examples of areas that might be included in each category type:

1. *General News* – crime and law enforcement stories, accidents, natural disasters, terror, military conflict, etc.
2. *Political* – stories about government, election, lawmakers, taxes, new bill plan or other public services
3. *Education* – stories about all levels of education. Most stories in the "Children First" section of the newspaper may fall into this category. If a story deals with child abuse, it should fall into general news because it is closer to crime issue than education issue.
4. *Business News* – corporate news, stories about markets, industry reports, real estate, financial news, lots of technology news, auto news, oil price etc.
5. *Entertainment & Features* – music, movie, play, arts, TV and Radio, dining, food, living, travel, books
6. *Sports* – professional or amateur sports, kids sports, leisure activities
7. *Health* – stories about diseases, pharmaceutical drugs, announcement of FDA, health-related fitness
8. *Science* – space reconnaissance, environment, ecosystem, etc.
9. *Other* – stories that doesn't seem to fit into any of the other categories. If possible, try to avoid this category. Think again carefully before taking this category.

H-LENGTH: Count **words** of the headline. While this one sounds easy enough, it requires careful attention. On the online version, there is difference between or among the headlines of the same online article according to the place the headline exists. Some headlines existing on the right side of the front page are short, while other headlines of same article existing in the news headline index or on the top of the actual news story is long. In this case, the headline on the top of the news story will be considered as the headline of the story. Code online and print versions separately. Code **only article** not photo.

LENGTH: Count **sentences** of the story. Do not count captions as sentences. Also, credit boxes at the end of some stories are not counted. Only count the actual text of the story.

Code online and print versions separately. Code **only article** not photo. Note that some stories are continued on another page.

PHOTO: Count photographs, graphs, maps and other visual images belonging to a news article. Please include from mug shot to multi-photo package. Photo of author should be coded.

RELATED: Count the related articles. It may be a little difficult because it requires exploring the whole newspaper back and forth. Some stories give information to how many related articles they have. This information can be a clue. However, the confident way is to read articles carefully.

BIBLIOGRAPHY

Althaus, Scott L and David Tewksbury. "Agenda setting and the "new" news: Patterns of issue importance among readers of the paper and online versions of the New York Times." Communication Research 29.2 (April 2002):180-207.

Audit Bureau of Circulations. "Reader Profile."Available from http://www.accessabc.com/reader/121350_0102_RPRD.pdf

Bresser, Bonnie and Lori Bergen. " Few University Students Reading Newspapers Online." Newspaper Research Journal (Spring/Summer 2002): 32-45.

Bridges, Janet A. and Lamar W. Bridges. "Changes in News Use on the Front Pages of the American Daily Newspaper, 1986-1993." Journalism & Mass Communication Quarterly 74 (Winter 1997): 826-38.

Cava, Marco R. della. "Salon does what it wants But what celebrated Webzine needs is to survive wave of dot-com failure." USA Today (June 18, 2001).

Chang, Tsan-Kuo and Jae-won Lee. "Factors Affecting Gatekeepers' Selection of Foreing News: A National Survey of Newspaper Editors." Journalism Quarterly 69(Autumn 1992):554-561.

Cohen, Jacob. "A coefficient of Agreement for Nominal Scales." Educational and Psychological Measurement 20 (1) (Spring1960): 37-46.

De Work, Roland. Introduction to Online Journalism: Publishing News and Information. Boston: Allyn and Bacon, 2001.

Editor & Publisher. Editor & Publisher 2001 International Year Book 81st edition. 2001.

Elkin, Tobi. "Salon, Slate grope for lifeline online." Advertising Age 74.9 (3 Mar, 2003): 57.

"Facts about Newspapers 2002." Newspaper Association of America Homepage. 19 May 2003 <http://www.naa.org/info/facts02/20_facts2002.html>.

Fattah, Hassan. " The cyber newscast." American Demographics, (Feb 2001).

Graphics, Visualization, & Usabilities Center. "GVU's 4th WWW user survey." Online Available: http://www.gvu.gatech.edu/user_surveys/survey-10-1995

Hall, Jim. Online Journalism: A Critical Primer. Sterling, Virginia: Pluto Press, 2001.

Huschka, Ryan. Personal interview. 5 May 2003.

Johnson, Thomas J. and Barbara K. Kaye. "Cruising Is Believing? Comparing Internet and Traditional Sources on Media Credibility Measures." Journalism & Mass Communication Quarterly 75 (Summer 1998): 325-340.

Lasica, J.D. " Net Gain," American Journalism Review 18 (November 1996): 20-33.

Lin, Lawrence I – Kuei. "A concordance correlation coefficient to evaluate reproducibility." Biometrics 45 (1989), 255-268.

Martin, Shannon E. " How News Gets from Paper to Its Online Counterpart." Newspaper Research Journal 19, (Spring 1998): 64-73

Mueller, Jennifer and David Kamerer. "Reader Preference for Electronic Newspapers." Newspaper Research Journal 16 (Summer 1995): 2-13.

Neuendorf, Kimberly A. The Content Analysis Guidebook. Thousand Oaks, CA: Sage Publications, 2002: 241-242.

Papacharissi, Zizi and Alan M Rubin. "Predictors of Internet use," Journal of Broadcasting & Electronic Media 44, (Spring 2000): 175-196.

Park, Sung-hee. "Journalism by demand: The changing role of online journalists as agenda setters." Ph.D. Dissertation, Purdue Univ.,2000.

Paul, Pamela. "The online reading room." American Demographics 23, (June 2001): 34-37

Pavlik, John V. "The future of online journalism," Columbia Journalism Review 36 (Jul/Aug 1997): 30-34.

Peng, Foo Y. , Naphtali I. Tham, and Hao Xiaoming. "Trends in Online Newspapers: A Look at the US Web." Newspaper Research Journal, (Spring 1999): 52-63.

Pew Research Center. Pew Research Center Biennial News Consumption Survey. 1998.

Phipps, Jennie L. " Local is everything on newspaper Web sites." Editor & Publisher (July 1999): 23-26.

PR News. " Get Local Pitches Online." (July1,2002): 1

Rafaeli, S. "Interactivity: From new media to communication." Advancing communication science: Merging mass and interpersonal processes. Ed. R. P. Hawkins, J. M. Wieman, & S. Pingree, Newbury Park, CA: Sage (1998): 110-134.

Reagan J. "Classifying adopters and nonadopters of four technologies using political activity, media use and demographic variables." Telematics and Infomatics 4 (1997): 3-16.

Riffe, Daniel, Charles F. Aust, and Stephen R. Lacy. "The Effectiveness of Random, Consecutive Day and Constructed Week Sampling in Newspaper Content Analysis." Journalism Quarterly 70 (Spring 1993): 133-139.

Rivas-Rodriguez, Maggie. "Brown eyes on the Web: a U.S. Latino newspaper site on the Internet." Ph. D. Dissertation, University of North Carolina at Chapel Hill, 1998.

Rogers, Everett M. Communication Technology – The New Media in Society. New York, NY: Nacmillan,1986.

Scherer, Michael. " Newspapers online: Why information will no longer be free." Columbia Journalism Review 41.5 (Jan/Feb 2003): 6.

Shoemaker, Pamela J. "Building a Theory of News Content: A synthesis of Current Approaches." Journalism Monographs 103 (June 1987): 1-36.

Singer, Jane B. " The metro wide Web: Changes in newspapers' gatekeeping role online." Journalism and Mass Communication Quarterly 78. (spring 2001):65-80.

Steuer, Jonathan. "Defining Virtual Reality: Dimensions Determining Telepresence." Journal of Communication 42 (autumn 1992): 73-93.

Tsai, Eva. "Online Journalism: How Newspapers Tell Stories on the Internet." M.A. Thesis, University of Southern California, 1998.

Teinowitz, Ira. "USA Today: 'No longer a newspaper'." Advertising Age 73.36 (Sep 9,2002): 18.

Voakes, Paul S., Jack Kapfer, David Kurpius, and David Shano—Yeon Chern. "Diversity in the News: A Conceptual and Methodological Framework." Journalism & Mass Communication Quarterly 73 (autumn 1996): 582-93.

Walker, Carol. " The ins and outs of pitching online publications." Public Relations Tactics 9.11 (Nov 2002): 24.

Wanta, Wayne and Virginia Roark. "Which Wirephotos Are Used and Which Are Rejected at Three Newspapers." Newspaper Research Journal 13&14 (Fall 1992/Winter 1993): 84-98.

Webster, James G. and Shu-Fang Lin. "The Internet audience: Web use as behavior." Journal of Broadcasting & Electronic Media 46 (Mar 2002): 1-12.

Wu, H Denis and Arati Bechtel. " Web site use and news topic and type." Journalism and Mass Communication Quarterly 79 (Spring 2002): 73-86.

Zingarelli, Mary. "Surfing the wave of flux: A journey into how conventional media adapting to meet the demand of the new online medium." M.A. Thesis, Carleton University, Canada, 2000.